



[Home](#) › [Methodologies](#) › [Weekly Payroll Jobs methodology](#) › Week ending 4 April 2020



This is not the latest release

[View the latest release](#)

Weekly Payroll Jobs and Wages in Australia methodology

Reference period Week ending 4 April 2020

Released 21/04/2020

On this page

[Explanatory notes](#)

[Glossary](#)

[Quality declaration](#)

[Abbreviations](#)

Explanatory notes

These weekly estimates are part of a suite of new products the ABS are releasing to provide up-to-date information on the impact of the COVID-19 coronavirus on people and businesses in Australia. This release provides indicative information on the economic impact of the COVID-19 coronavirus on employees, including changes in employee jobs, changes in total wages, and changes in average weekly wages per job.

Source

These weekly estimates are derived from Single Touch Payroll (STP) data, which is provided to the Australian Taxation Office (ATO) by businesses with STP-enabled payroll or accounting software each time the business runs its payroll. STP data includes both business and job level tax information and superannuation information. The data are combined with other administrative data from the Australian taxation system to determine additional classification attributes, such as the age and sex of employees.

The ABS would like to acknowledge the critical support from the Australian Taxation Office

(ATO) in enabling the ABS to produce these statistics.

Scope

All employee jobs reported to the ATO through STP are in scope of these estimates.

An employee job is a relationship between an employed person and their employing enterprise, where the employee has received a payment in the reference week through STP-enabled software and reported to the ATO.

Owner managers of unincorporated enterprises are not included in these estimates as they are not in scope of STP-enabled software reporting to the ATO.

As at 6 April 2020, approximately 99% of employers the ATO classifies as 'substantial employers' (those with 20 or more employees) were reporting through STP. Small employers (those with 19 or less employees) began transitioning to STP on 1 July 2019 and by 6 April 2020 approximately 71% were reporting through STP. As a result, not all jobs in the Australian labour market are captured within these estimates.

The estimates are considered experimental and only provide an indication of movements in total jobs and total wages (rather than level estimates), for the purpose of assessing the economic impact of the COVID-19 coronavirus on employees.

Frequency and duration

These estimates will be published fortnightly on Tuesdays during the COVID-19 coronavirus period. The timing has been optimised around when the largest proportion of both weekly and fortnightly payments are made (thereby minimising the contribution from imputation at the end point of the series).

These estimates have a 17 day time lag after the reference week. While estimates are published fortnightly, weekly data are available within the release.

Coverage

These estimates are available by state and territory, and at the national level. All geographic variables are based on the individual's residential address as stated on their income tax return. Where an address is not available from the income tax return the residential address as reported on the STP file is used.

Estimates are also provided for the 19 [Australia and New Zealand Standard Industry Classification \(ANZSIC\)](https://www.abs.gov.au/ausstats/abs@.nsf/mf/1292.0) (<https://www.abs.gov.au/ausstats/abs@.nsf/mf/1292.0>) divisions. All

industry variables are based on the ABS Statistical Business Register.

Methodology

Calendarisation

STP data is reported on a year-to-date cash accounting basis at the time the payment was provided to an employee rather than at the time the payment was earned. To produce indicative real time estimates of wages and jobs, the calendarisation method is used to convert STP data from a cash basis to an accrual basis.

The calendarisation method uses the start and end date of the payment period reported through STP to calculate the payment frequency, known as 'periodicity'. A daily pay rate is then calculated by dividing the total payment by the total number of days in the payment periodicity. For example, a payment made weekly will be divided by seven to calculate a daily pay rate. Where the commencement or termination date for a job occurs within a payment period, the periodicity for that job is adjusted to exclude the days before commencement or after termination.

Imputation

Payment data extracted from the STP system each week is always partially incomplete, given businesses have different payment frequencies. For example, a business with a fortnightly payroll will only provide STP data every second week. To produce reliable, unbiased weekly statistics, an imputation method is used to account for differing reporting patterns.

If an employee has not yet had payment data reported and they have not been flagged for termination, it is assumed that their payment status is consistent with their previous reporting record. The previous calculated daily rate will be imputed for the current period.

As at 13 April 2020, the data indicates that 38% of employees are paid weekly; 47% are paid fortnightly; 11% paid monthly; 4% are paid quarterly or paid infrequently.

No imputation is required for employees paid weekly. Business reported data is included for all employees paid weekly due to the 17 day lag between the reference week and the release of estimates. Actual payments for most employees paid fortnightly and some employees paid monthly are also available.

Imputation is not applied for the small proportion of employees who are paid quarterly or infrequently as there is not an established pattern of payment to extrapolate forward.

No imputation is applied for new employees without historical payment information, until a pattern can be determined.

Aggregation

Once STP data is converted to an accrual basis using the calendarisation method and imputation is applied, the data is aggregated to produce the following weekly estimates:

- Total Employee Jobs: The average of the 7 days of employee counts.
- Total Wages: The sum of all daily rates for all jobs for the week. This is the total value of wages for the week.
- Average weekly wage by job: This is calculated by dividing the total wages value by the total employee jobs number.

Revisions

The data underlying these estimates are revised for each release, and reflected in percentage change movements and indexes.

Revising underlying data across the time series allows the estimates to incorporate newly available business reported data and replace previously imputed data with actual data.

Time series estimates

The estimates are presented as an original series only. Seasonally adjusted and trend estimates are not yet available. A number of years of data will be required before seasonal patterns can be observed and adjusted for.

The calendarisation and imputation methodologies applied to the estimates account for calendar related variations, such as the number of days in a month, and different payment frequencies.

Note: All estimates presented in this publication are presented for weeks ending on a Saturday.

Summary of outputs

Estimates are produced for weekly change in the number of jobs, change in wages and change in average weekly wage by job. These estimates are available at the national, state and territory and [ANZSIC \(https://www.abs.gov.au/ausstats/abs@.nsf/mf/1292.0\)](https://www.abs.gov.au/ausstats/abs@.nsf/mf/1292.0) division level by selected personal attributes, including sex and 10 year age groups. Estimates are presented as percentage change movements and indexes.

Indexed number of jobs and total wages

The estimates include indexes to present changes in the labour market during the COVID-19 coronavirus period.

In order to compare changes over time, the week Australia recorded its 100th confirmed coronavirus case (i.e. week ending 14th March 2020) is used as the reference period for constructing the indexes and given an index value of 100.0.

Index values relative to the reference period are updated in each release to reflect revisions to underlying data. Index values commencing week ending 4 January 2020 are available via Table 4 in the Data downloads section to support users to undertake additional longer time series analysis.

The indexes allow comparison between two points in time. The points in time can be adjacent (this week and the previous week) or many weeks apart. Movements in the index from one period to another can be expressed as either points or percentage change and these are rounded to one decimal place.

The following example illustrates the method of calculating changes in index points and percentage changes between any two periods:

Total employee wages - Australia index numbers

	Index number
Week ending 4 April 2020	93.3
Less week ending 21 March 2020	99.5
Change in index points	-6.2
Percentage change	$-6.2/99.5 \times 100 = -6.2\%$

These indexes differ from the ABS' suite of price indexes, including the Wage Price Index, which measure changes in price over time unaffected by quality or quantity and should not be directly compared.

Concept of an employee job

An employee job is a relationship between an employed person and their employing enterprise, where the employee has received a payment in the reference week through STP-enabled software and reported to the ATO.

Limitations

STP data does not include information on hours worked or hours paid for. Analysis of

monthly hours worked can be found in [Labour Force, Australia \(cat. no. 6202.0\)](https://www.abs.gov.au/ausstats/abs@.nsf/mf/6202.0) (<https://www.abs.gov.au/ausstats/abs@.nsf/mf/6202.0>) and the detailed releases (cat. no. [6291.0.55.001](https://www.abs.gov.au/ausstats/abs@.nsf/mf/6291.0.55.001) (<https://www.abs.gov.au/ausstats/abs@.nsf/mf/6291.0.55.001>) and [6291.0.55.003](https://www.abs.gov.au/ausstats/abs@.nsf/mf/6291.0.55.003) (<https://www.abs.gov.au/ausstats/abs@.nsf/mf/6291.0.55.003>)).

The estimates do not include information on the employment status of employees, i.e. full time or part time. This will be explored as part of ongoing work between the ABS and the ATO. In the interim, this information is also available within the suite of Labour Force releases.

Note: The gender statistics contain a component of unspecified which have been excluded from the sex calculations but are included in all other calculations.

Privacy and confidentiality

STP data is supplied by the ATO to the ABS under the Taxation Administration Act 1953, which requires that such data is only used for the purposes of administering the Census and Statistics Act 1905. Any discussion of data limitations or weaknesses is made within the context of using the data for statistical purposes, and is not related to the ability of the data to support the ATO's core operational requirements.

Legislative requirements to ensure privacy and secrecy of this data have been adhered to. In accordance with the Census and Statistics Act 1905, results have been confidentialised to ensure that they are not likely to enable identification of a particular person or organisation.

Acknowledgement

The ABS would like to acknowledge the critical support from the Australian Taxation Office (ATO) in enabling the ABS to produce these statistics.

Glossary

Show all

Australian Bureau of Statistics Business Register

A register of all Australian businesses and organisations maintained by the Australian Bureau of Statistics (ABS) for the purpose of producing statistical frames and business demography outputs. It contains identifying and classificatory data for each business and organisation.

Information to populate the ABS Business Register is largely sourced from the Australian

Business Register.

The ABS Business Register consists of two subpopulations, the profiled population and the non-profiled population. The ABS Business Register uses an economic units model to describe the characteristics of businesses and the structural relationships between related businesses.

Australian Business Number

A unique identifier. To be entitled to an Australian Business Number (ABN), an organisation must be one or more of the following:

- a company registered under the Corporations Act 2001
- an entity carrying on an enterprise in Australia
- a government entity
- a non-profit sub-entity for Goods and Services Tax purposes
- a superannuation fund.

A non-resident entity may be entitled to an ABN if they are carrying on an enterprise in Australia and/or, in the course of carrying on an enterprise, the entity makes sales that are connected with Australia.

Australian Business Register

The data store containing details about businesses and organisations that have registered for an Australian Business Number. More information can be found on the [ABR website \(https://abr.gov.au/\)](https://abr.gov.au/).

Commencement and termination dates

Commencement and termination dates associated with each job as reported through Single Touch Payroll.

Employee

Persons who work for a private or public sector employer, where the employee has received payment in the reference week through Single Touch Payroll (STP) enabled software and reported to the Australian Taxation Office (ATO).

Employee job

A relationship between an employed person and their employing enterprise, where the employee has received a payment in the reference week through STP-enabled software and reported to the ATO.

Employer

An organisation with an Australian Business Number that provides employment income to one or more people, and reports through the ATO STP system.

Geography

See Statistical area entries. For more information, see the [Australian Statistical Geography Standard \(ASGS\): Volume 1 – Main Structure and Greater Capital City Statistical Areas](https://www.abs.gov.au/AUSSTATS/abs@.nsf/ProductsbyCatalogue/871A7FF33DF471FBCA257801000DCD5F?OpenDocument) (https://www.abs.gov.au/AUSSTATS/abs@.nsf/ProductsbyCatalogue/871A7FF33DF471FBCA257801000DCD5F?OpenDocument) (cat. no. 1270.0.55.001).

Industry

A homogenous grouping of economic activities undertaken to produce goods and services. The [Australian and New Zealand Standard Industrial Classification](https://www.abs.gov.au/ausstats/abs@.nsf/mf/1292.0) (https://www.abs.gov.au/ausstats/abs@.nsf/mf/1292.0) (cat. no. 1292.0) is used to classify an entity to an industry based on its dominant activity.

Industry division

The broadest grouping of industries within the Australian and New Zealand Standard Industrial Classification. The main purpose of the industry division level is to provide a limited number of categories, which give a broad overall picture of the economy. There are 19 mutually exclusive divisions. For more information see the [Australian and New Zealand Standard Industrial Classification](https://www.abs.gov.au/ausstats/abs@.nsf/mf/1292.0) (https://www.abs.gov.au/ausstats/abs@.nsf/mf/1292.0) (cat. no. 1292.0).

Job

See employee job.

Not published (np)

Statistic is not able to be published. This can be to protect the confidentiality of data providers or to prevent misinterpretation of statistics due to poor quality.

Owner-manager of unincorporated enterprises (OMUE)

A person who operates their own unincorporated enterprise, which does not possess a separate legal identity to that of its owner(s), or engages independently in a profession or trade.

OMUEs can also be referred to as self-employed. Owner managers of unincorporated enterprises are not included in these estimates as they are not in scope of STP-enabled software reporting to the ATO.

Unincorporated enterprises are further defined in the [Standard Economic Sector Classifications of Australia \(https://www.abs.gov.au/ausstats/abs@.nsf/mf/1218.0\)](https://www.abs.gov.au/ausstats/abs@.nsf/mf/1218.0) (cat. no. 1218.0).

Single Touch Payroll

The Single Touch Payroll (STP) system sends taxation and superannuation information from a business' STP-enabled payroll or accounting software to the ATO as a business runs its payroll.

Sex

The self reported sex of a person as recorded by the ATO. Binary coding to female and not female is undertaken for privacy and confidentiality purposes.

Statistical area level 4

Statistical area level 4 (SA4) regions are specifically designed to reflect labour markets within each state and territory within population limits. In regional areas, SA4s tend to have lower populations (100,000 to 300,000), while in metropolitan areas, SA4s tend to have larger populations (300,000 to 500,000).

Type of activity unit

The statistical unit for more significant and diverse businesses in the profiled population. A type of activity unit (TAU) is a constructed unit that can practically group and report on homogenous production activities at the industry sub-division level.

In this publication, the TAU is used to represent employers in the profiled population.

Type of legal organisation

All legal entities on the ABS Business Register are classified according to their type of legal organisation, of which there are three types:

- incorporated private sector entities
- unincorporated private sector entities
- public sector entities.

The type of legal organisation indicates whether a business is part of the private or public sector and the type of ownership structure. For more information see the [Standard Economic Sector Classifications of Australia \(https://www.abs.gov.au/ausstats/abs@.nsf/mf/1218.0\)](https://www.abs.gov.au/ausstats/abs@.nsf/mf/1218.0) (cat. no. 1218.0).

Quality declaration

Institutional environment

For information on the institutional environment of the Australian Bureau of Statistics (ABS), including the legislative obligations of the ABS, financing and governance arrangements, and mechanisms for scrutiny of ABS operations, please see [ABS Institutional Environment \(https://www.abs.gov.au/websitedbs/d3310114.nsf/4a256353001af3ed4b2562bb00121564/10ca14cb967e5b83ca2573ae00197b65!OpenDocument\)](https://www.abs.gov.au/websitedbs/d3310114.nsf/4a256353001af3ed4b2562bb00121564/10ca14cb967e5b83ca2573ae00197b65!OpenDocument).

These estimates use Single Touch Payroll (STP) data provided to the Australian Taxation Office (ATO) by businesses with STP-enabled payroll or accounting software each time the business runs its payroll.

STP data is supplied by the ATO to the ABS under the Taxation Administration Act 1953, which requires that such data is only used for the purposes of administering the Census and Statistics Act 1905. Any discussion of data limitations or weaknesses is made within the context of using the data for statistical purposes, and is not related to the ability of the data to support the ATO's core operational requirements.

These estimates also include Australian Business Register (ABR) data supplied by the Registrar to the ABS under A New Tax System (Australian Business Number) Act 1999, which requires that such data is only used for the purpose of carrying out functions of the ABS. Any discussion of data limitations or weaknesses is in the context of using the data for statistical purposes, and is not related to the ability of the data to support the ABR's core operational requirements.

Legislative requirements to ensure privacy and secrecy of this data have been adhered to. In accordance with the Census and Statistics Act 1905, results have been confidentialised to ensure that they are not likely to enable identification of a particular person or organisation.

All personal information is handled in accordance with the Australian Privacy Principles contained in the Privacy Act 1988.

Relevance

These estimates provide indicative weekly information on the economic impact of the COVID-19 coronavirus on employees, including changes in employee jobs, changes in wages and changes in average weekly wage per job.

The scope of this data includes all employee jobs reported to the ATO through STP. As at 6 April 2020, approximately 99% of substantial employers (those with 20 or more employees)

are reporting through STP. Small employers (those with 19 or less employees) begun transitioning to STP on 1 July 2019 and approximately 71% are currently reporting through STP. As a result, not all jobs in the Australian labour market are captured in these estimates.

Data is presented at the national level, state and territory level, and by the 19 Australia and New Zealand Standard Industry Classifications (ANZSIC) divisions.

Timeliness

The ABS receives tax data from the ATO on a weekly basis. Estimates are published with a 17 day time lag to the end of the reference week. While estimates are published fortnightly, weekly data is available within the release.

Accuracy

Weekly Payroll Jobs and Wages in Australia is subject to the following sources of error:

- Conceptual misalignment. The Australian tax system is purpose-built and complex, and in some cases it is difficult to determine how a particular STP item should be used to describe impact on employee jobs and wages and in some cases the item can be a partial conceptual match. While all care is taken, some income items are subject to this type of validity error. Coherence with other sources indicates that this has a low impact on aggregate series.
- Measurement error. This is likely to be present in both person and business information used. Most measurement error is unable to be determined or corrected; however, coherence with other similar statistics demonstrates that this has a low impact on aggregate series.
- Incomplete information. While the majority of large employers are already reporting through STP, many smaller businesses are still in the process of transitioning to STP. As at 6 April 2020, approximately 99% of substantial employers (20 or more employees) and 71% of small employers (19 or less employees) are reporting through STP. Payment data extracted from the STP system each week is incomplete as businesses have different payment frequencies. For example, a business with a fortnightly payroll will only provide STP data every second week. An imputation method is used to account for differing reporting patterns. Owner manager of unincorporated enterprises are also not included in these estimates because they are not in scope of STP-enabled software reporting to the ATO.

The data underlying Weekly Payroll Jobs and Wages in Australia is revised for each release, as new business reported data becomes available.

Coherence

There are differences between Weekly Payroll Jobs and Wages in Australia estimates and similar statistics produced by the ABS. When compared to other ABS sources, the change in employee jobs, change in wages paid and change in average weekly wage per job in these estimates may differ due to:

- differences in the concepts, scope and methodology used in Weekly Payroll Jobs and Wages in Australia and those used in other household and business surveys.
- Weekly Payroll Jobs and Wages in Australia contains a combination of administrative data collected for taxation purposes from businesses, whereas other ABS data sources are compiled for the explicit purpose of producing statistics.
- unreported cash in hand payments, which are excluded from Weekly Payroll Jobs and Wages in Australia but may be included in household and business surveys.
- Weekly Payroll Jobs and Wages including information relating a reference week, rather than a particular point in time.

Weekly Payroll Jobs and Wages provides a view of jobs, whereas the Labour Force survey presents a view of employed persons. The difference being those people who hold more than one job at a time. The ABS estimates there are around 1 million secondary jobs in the economy.

Interpretability

Employee job movements reference all employee jobs identified within the reference period and therefore don't reflect a single point-in-time measure. The explanatory notes and glossary for this publication provide further information that can help to interpret these statistics.

Accessibility

For more information about Weekly Payroll Jobs and Wages in Australia, please [contact us online \(https://www4.abs.gov.au/web/survey.nsf/inquiryform/\)](https://www4.abs.gov.au/web/survey.nsf/inquiryform/) or phone us on 1300 135 070.

Abbreviations

[Show all](#)

\$	dollars
'000	thousand
ABR	Australian Business Register
ABS	Australian Bureau of Statistics
ABSBR	Australian Bureau of Statistics Business Register
ACT	Australian Capital Territory
ANZSIC	Australian and New Zealand Standard Industrial Classification
ASGS	Australian Statistical Geography Standard
ATO	Australian Taxation Office
Aust.	Australia
cat. no.	catalogue number
ETFN	Encrypted Tax File Number
excl.	excludes or excluding
Govt	Government
ITR	Individual Tax Return
LE	Legal Entity
LEED	Linked Employer-Employee Dataset
LFS	Labour Force Survey
m	million
np	not published
no.	number
NSW	New South Wales
NT	Northern Territory
OMUE	Owner manager of unincorporated enterprise
PIT	Personal Income Tax
QBIS	Quarterly Business Indicators Survey
Qld	Queensland
SA	South Australia
SA4	Statistical Area Level 4
SIH	Survey of Income and Housing
STP	Single Touch Payroll
Tas.	Tasmania
TAU	Type of Activity Unit
TOLO	Type of Legal Organisation
TFN	Tax File Number
Unincorp.	Unincorporated

Vic.	Victoria
WA	Western Australia